Tetra Pak Index 2020

COVID-19 and the Food Safety–Environment Dilemma

Tetra Pak®
PROTECTS WHAT'S GOOD

Table of contents

1. Thoughts from our President and CEO

2. Insights

a. COVID-19 has transformed the consumer landscape

b. The changing interplay between food safety and the environment

c. Transparency and trust are more important than ever

d. Food waste is rising up the agenda

e. Consumers want to help – but labelling is key

f. Concern for the environment remains very strong

g. Sustainable packaging matters

h. Convergence is increasing

3. What's next?

a. Factors influencing the future of packaging

b. What consumers want

4. Summary and conclusions

5. Research and references

Thoughts from our President and CEO

Welcome to the 13th issue of the Tetra Pak Index, which, in the wake of COVID-19, explores a very different world to the one we looked at a year ago.

The pandemic, an unprecedented event affecting communities worldwide, has disrupted the status quo, accelerated trends and created a new landscape of consumer concerns and needs, redefining the ground rules for the industry and creating new paradigms.

Not surprisingly, COVID-19 is the number one concern for consumers worldwide, evidenced in our recent global research. Against this backdrop, economic worries have seen a sharp upturn, reflecting widespread uncertainty about the impact of the pandemic on the economy, particularly employment.

Interestingly however, food safety has quickly moved up the list of consumer priorities. It is now seen as a major issue for society by more than two-thirds of respondents. Consumers believe that improving food safety is not only the responsibility of manufacturers, it needs to be their first priority. And with dwindling trust levels, consumers are looking for transparency and reassurance that this priority is being addressed. Many now say they want to know everything they can about a product's provenance and production process – highlighting a communication opportunity for brands.

"Food safety has quickly moved up the list of consumer priorities. It is now seen as a major issue for society by more than two-thirds of respondents. Consumers believe that improving food security is not only the responsibility of manufacturers, it needs to be their first priority."

At the same time, concern for the environment remains strikingly powerful. True, it has been relegated to the number two spot of global consumer concerns by COVID-19. But it is still substantially ahead of everything else, with more than two-thirds of consumers believing that we must change our habits quickly to mitigate further environmental impact. In this context, sustainable packaging remains key, rated a top expectation from manufacturers by more than half of respondents.

While both these priorities – food safety and the environment, hold their place of prominence, a deeper investigation, especially in the context of food packaging, suggests a dilemma. For instance, when describing the role of packaging, consumers indicate that ensuring food safety is the main purpose, far higher than environmental factors such as recyclability and renewability.

This dilemma is also reflective of the current industry reality. While food packaging plays a critical role in feeding the world, it also impacts the earth's climate and its limited resources. This should not be the case, and we should not have to choose between the two. And food packaging can indeed play a strong role in bringing about this harmony.

The pandemic has reinforced the fact that our world needs high-performance packaging, with a longer shelf life that increases food access and reduces food waste, that is recyclable and reduces the climate impact through low-carbon materials and ambient distribution.

The food and beverage industry therefore has a unique opportunity to deploy food packaging that meets all these requirements. At Tetra Pak, we are on a journey to create the ultimate sustainable food package – a carton package that is made solely from responsibly sourced renewable or recycled materials, is fully recyclable and carbon-neutral, allowing ambient distribution and meeting food safety requirements.

Bold initiatives such as these are the need of the hour, as the industry needs to step-up towards the twin goals of protecting our planet's ecosystem and meeting the human need for food. Only then can we be a part of building a sustainable future for the next generation, especially in the aftermath of COVID-19.

I hope this year's Index provides some valuable insights and learnings around the current consumer mindset, as we look forward to working with our customers and industry stakeholders to realise the opportunities it presents.

Adolfo Orive
President & CEO, Tetra Pak

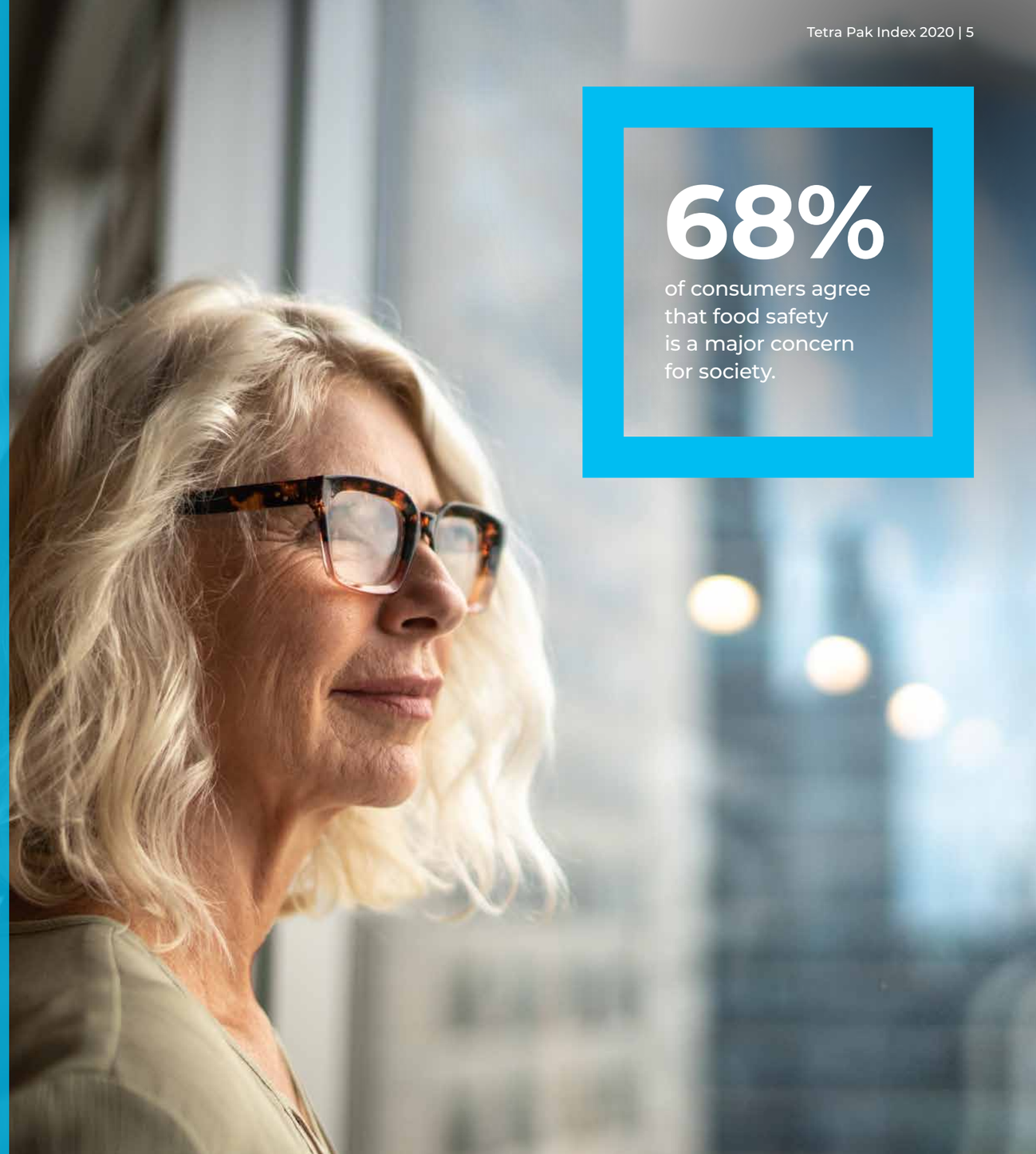
"The industry needs to step up towards the twin goals of protecting our planet's ecosystem and meeting the human need for food."

COVID-19 has transformed the consumer landscape

Our Tetra Pak Index 2020 research reveals a strikingly different consumer landscape to our last report, highlighting a dilemma between food safety and the environment.

Twelve months ago, the Tetra Pak Index 2019 found that the number one consumer concern was the environment (by some margin, at 63%), followed by health (at 46%). It also found that these historically separate areas were converging, as interest in the environment shifted from a distant, abstract concern to something more concrete, urgent and personal – an issue that consumers increasingly saw as impacting themselves and their families.

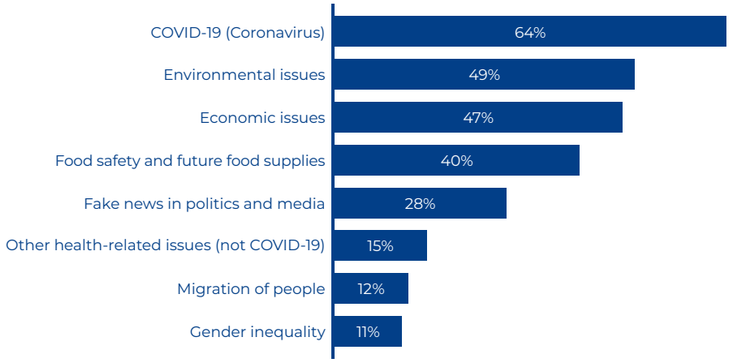
This year, we can clearly see a significant shift in consumers' attitudes and their view of the biggest challenges facing the world. In our consumer interviews, carried out in mid-2020, an entirely novel worry unsurprisingly emerges as by far the single most pressing issue, cited by 64% of respondents: COVID-19. Other health-related issues have dropped significantly, by comparison, down to a mere 15%.



68%

of consumers agree that food safety is a major concern for society.

Global concerns are highly affected by COVID-19



The pandemic has also pushed the environment down the list of global concerns: from 63% in 2019 to 49% today. Meanwhile, worries about economic issues have risen, up from 40% to 47%, reflecting widespread concern about the impact of the pandemic on the economy, particularly employment.

In addition, COVID-19 has sparked a significant rise in global concern about food safety and future food supplies, cited by a combined total of 40% (27% and 13% respectively), compared with 30% when merged as a single topic in 2019.

This uptick comes through even more strongly when we drill down further into attitudes around these topics, with 68% agreeing that food safety is a major concern for society – the same amount as believe that COVID-19 is a "real threat", suggesting a dilemma between food safety and environment. See the next section for more on this.

We can see a significant drop-off in consumer interest/concern beyond these key topics of COVID-19, food safety, the environment and economic issues: the bedrock of consumer priorities today.

How COVID-19 has influenced behaviour

Triggers	Reactions
Awareness of virus	· Increased demand for preventive health products
Uncertainty about the future	· Stockpiling · Sense of responsibility for future food security
Strong focus on hygiene	· Minimal person-to-person contact · Increased demand for packaged food · Secure and "tamper-proof" sealed packaging is a rising purchase criterion
Studies show that the virus survival rate varies on different packaging substrates	· More conscious of grocery packaging
Imposed quarantine	**Consumption occasions:** · All day snacking · Indulgence · More home cooking

Case study

Immunity-boosting products

The global pandemic has escalated an already growing trend for health products, especially immunity-boosting food and drink. Interest was already high in functional products – with consumers searching for terms such as "digestive health" and "brain health" – but recently people have shifted significantly towards searches on products and ingredients that can boost the immune system.

According to research by Mintel, the COVID-19 outbreak has prompted 45% of consumers in Europe to add more nutrients to their diet, while 29% reported being more interested in foods that can support the immune system since the start of the pandemic. Google Trends data also shows an approximate 500% increase in searches for immunity in food and drink worldwide.

Finding the right balance when positioning immunity-boosting products is an important factor. Food and beverage producers must consider the price point at the formulation stage, and while premium products have their place, the current climate also demands convenience, value for money and accessibility.

Case study

Packaged UHT milk

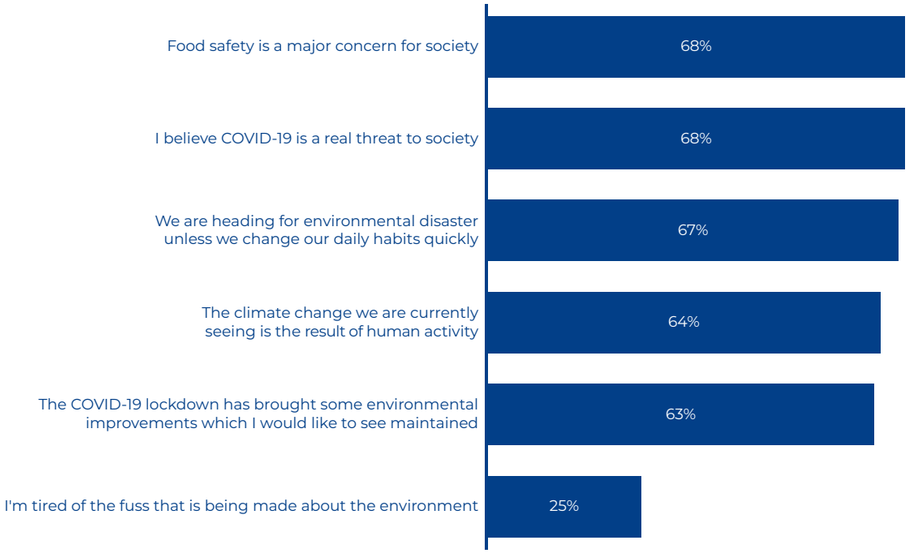
Consumption of white milk has long been growing in Greater Middle East & Africa, however the majority of this is still loose, rather than packaged. A key issue around the take-up of packaged Ultra High Temperature (UHT) milk in particular has been a lack of education: there is a popular misconception that because of its long shelf life, the product contains additives, which is contrary to growing consumer demand for natural products. But with the COVID-19 pandemic increasing concern about food safety and hygiene, the opportunity was there to run an information campaign and explain that UHT milk represents a safe, healthy and convenient way to access the nutritional benefits of white milk.

The ongoing Tetra Pak campaign is primarily targeted at female consumers aged 25–45, who are concerned with feeding their children and families with the most safe and nutritious food. Five videos have been developed, each providing answers to consumers' most-asked questions about UHT, including explaining how the milk gets from the farm to the table and how aseptic packaging can keep the product fresh without the need for preservatives. Promoted online and via social media, these videos have been viewed more than 15 million times to date.

The changing interplay between food safety and the environment

As we have seen, COVID-19 has significantly focused attention on hygiene and food safety, with more than two-thirds (68%) of consumers worldwide now believing that food safety is a major concern for society.

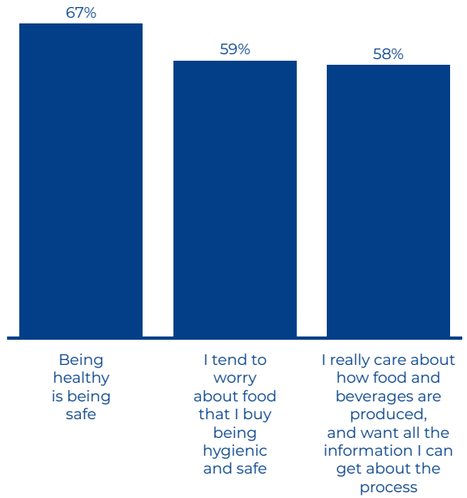
2/3 of global population express concern over food safety



Moreover, 59% say they tend to worry about the food they buy being hygienic and safe. This is in contrast to their earlier stated global concerns, where the environment-related one was rated much higher – underscoring the dilemma that consumers face while balancing these priorities. Health, a leading consumer concern for a long time, is now bound up with these heightened issues of food safety and hygiene, with 67% of consumers agreeing that being healthy is being safe.

This is particularly true in China, where 80% of respondents connect healthy food with food that is safe – rather than with food that is nutritious – and a striking 88% prioritise "eating right", rather than exercise, as a means of being healthy.

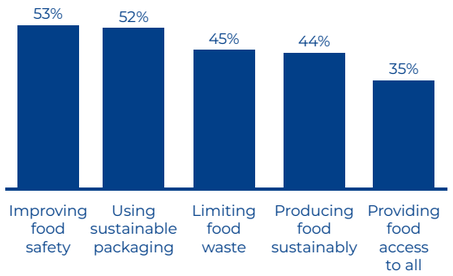
Health is strongly linked to food safety and hygiene



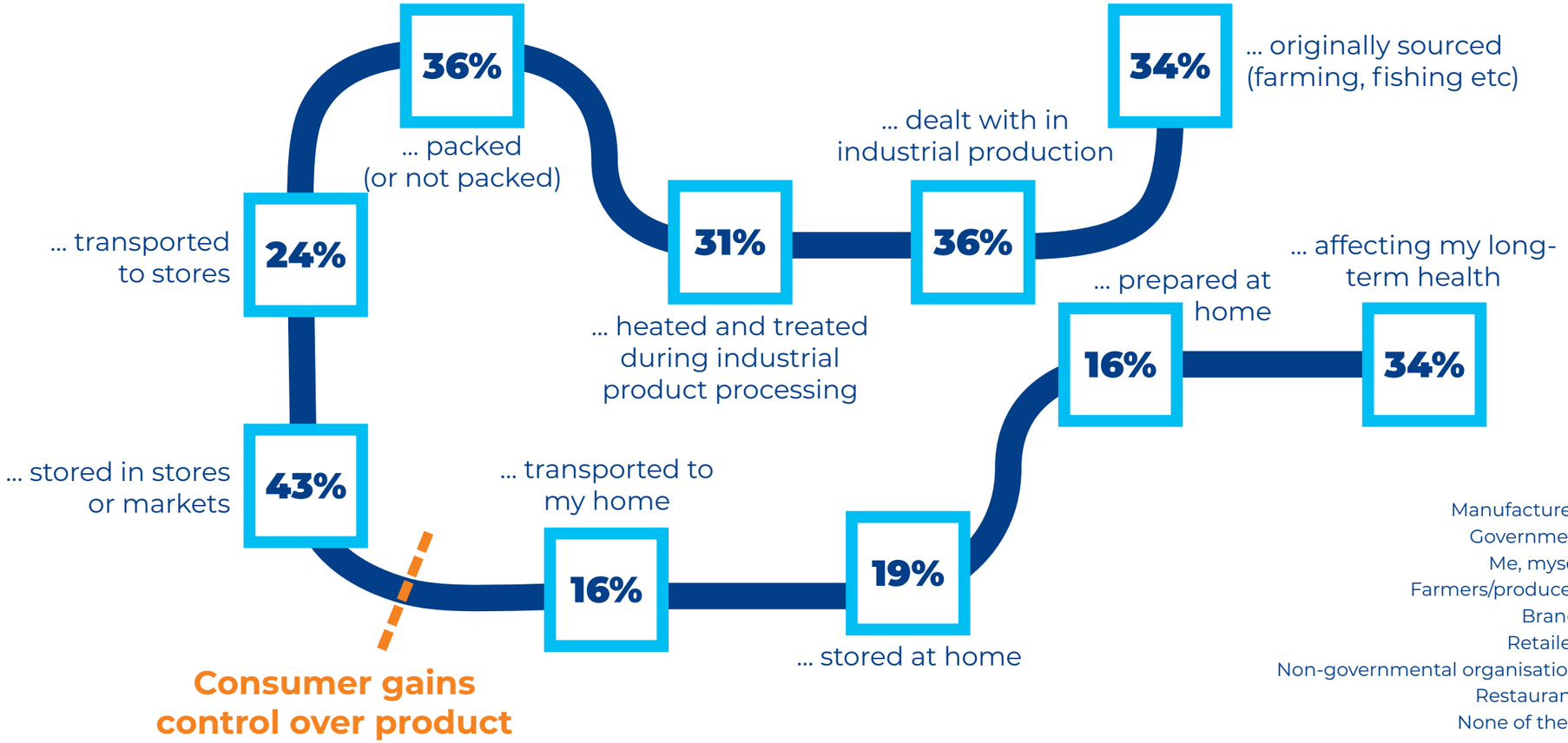
This greater interest in food safety is reflected in consumers' expectations of food and beverage companies. They now believe that "improving food safety" should be manufacturers' number one priority, closely followed by "using sustainable packaging" and "limiting food waste". More than half of consumers (58%) also think brands have a responsibility to society in relation to the COVID-19 crisis.

Many now think twice about the hygiene and sanitation procedures involved in processing, transporting and preparing their food. Our social media research found high consumer concern about limiting virus transmission through food handling and packaging, particularly at the start of the pandemic. During this time, consumer tensions were caused by a prevalence of misinformation causing over-cautious behaviour and there was a high level of information-sharing and information-seeking content.

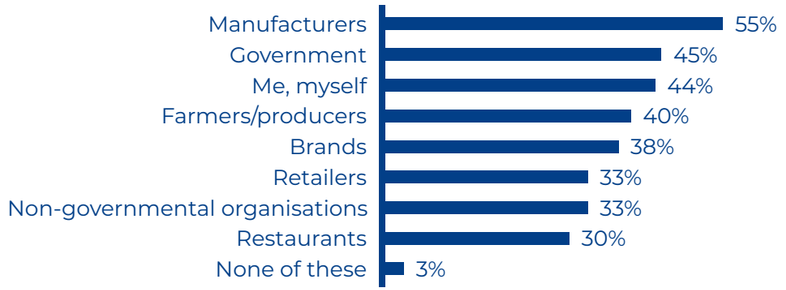
Top issues companies need to tackle now and in the future



Consumers are unsure of whether a product is safe to consume because of how the product was...



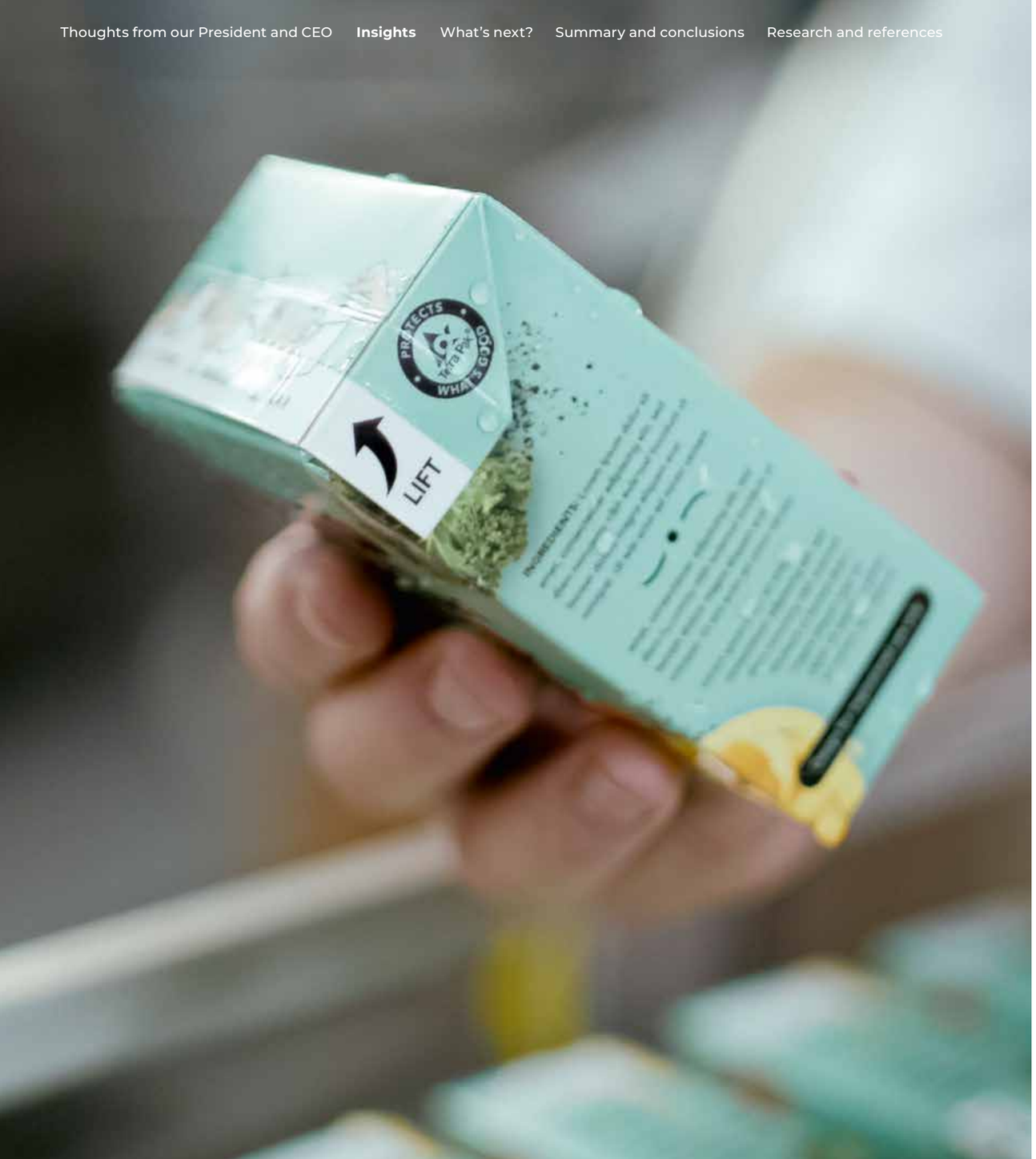
Who is responsible for food safety?



Generally, consumers are much less sure about aspects of food safety that they can't control. There is particular concern around how products are stored in stores or markets (43%), as well as industrial production (36%), packing (36%) and sourcing (34%).

A third of consumers (34%) have also been unsure about a product due to concerns about its impact on their long-term health. Younger age groups are significantly more unsure about how products are packed and their effect on long-term health. They are also more insecure about how food is stored/prepared at home, perhaps suggesting less confidence in their knowledge of food than older groups.

Looking ahead beyond the pandemic, the focus on food safety and availability is likely to continue to grow, as the world population is predicted to reach 9.1 billion by 2050, requiring the production of 70% more food.[1]



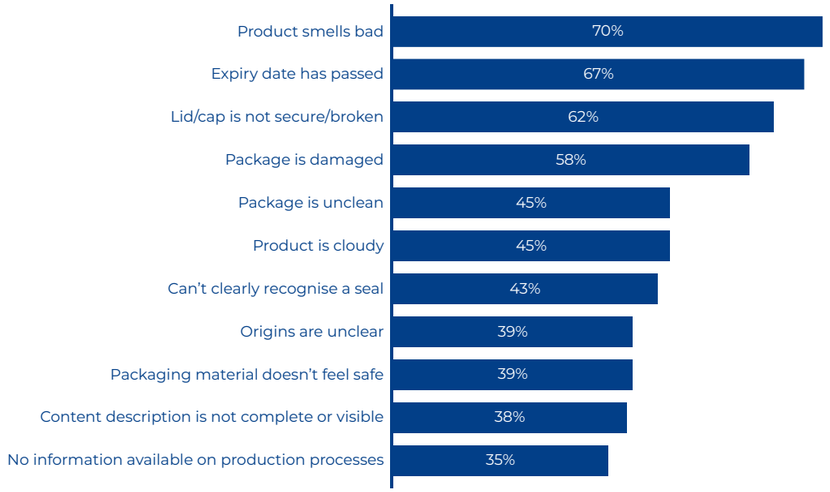
The role of packaging

When asked what is key for them in packaging, consumers indicate that ensuring food safety is its main purpose.

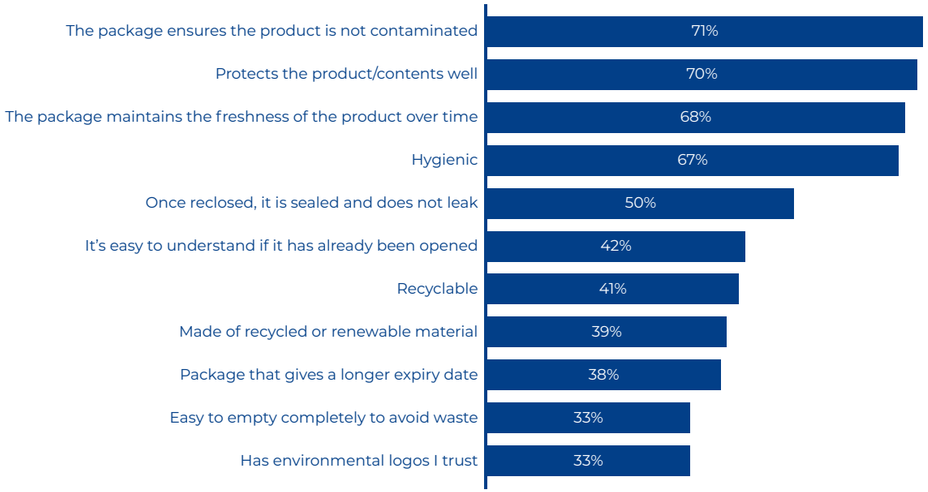
In particular, they believe that packaging should ensure that the product is free from contamination (71%) and that it is well protected (70%). Indeed, the top six packaging characteristics rated most important by consumers all relate to food safety, with protecting the content for longer and ensuring hygiene also scoring highly. The top environmental characteristic, recyclability, rates seventh at 41%.

Moreover, when asked if they might be concerned about environmentally friendly packaging innovations impacting on food safety, a significant number said they would be (between 36% and 41%, depending on the innovation). This appears to be a general concern and it is difficult for consumers to judge differences between innovations. Again, it underscores that food safety is non-negotiable, even when compared with other factors that they rate highly, suggesting an appetite for innovative packaging solutions helping consumers to address the dilemma they face between food and the environment.

The product is considered unsafe to consume if



What consumers value the most in a package



The expiry date is considered a vital sign of food safety, with 67% thinking that a product may be unsafe to consume once this date has passed – only just below the product smelling bad (70%). This has a big impact on food waste, as we shall see in a subsequent section.

Generally, a lid/cap is important to consumers, with half saying they feel reassured if a product has one. Moreover, 58% cite that ensuring a package is kept well-closed after opening helps keep food safe – further demonstrating the importance of a resealable/reclosable lid/cap.

The strong association between food safety and the presence of a lid/cap is echoed by our social media research: many conversations point to a sensory element provided by packaging seals which helps to instil trust in the safety of food and beverage products. We also found instances where the lack of an expected seal has led people to consider that a product might be counterfeit.

Again, there are demographic differences, with younger groups being more sensitive to unknown brands, unpacked products, a short expiry date and a lack of information on production processes. Older consumers are more sensitive to the product smelling bad, appearing cloudy, the lid/cap not being secure/being broken, suggesting that they are more prepared to check and gauge product safety for themselves, rather than rely on information provided or the reassurance offered by a trusted brand.

"The data reveals food safety as a rising source of anxiety for consumers worldwide. With a growing global population set to require 70% more food by 2050, at the same time we face the pressing environmental challenges of climate change, biodiversity loss and growing levels of food waste. As a result, consumers have given business a clear mandate to lead with solutions that reassure people about the food they eat, tangibly solve packaging and climate change challenges, and address the food waste – all of which must be overcome for us to have a sustainable future."

Dan Esty, Hillhouse Professor at Yale University

Case study

KARA, Indonesia

The COVID-19 pandemic has led to some significant changes in consumer behaviour. Interest in cooking at home has grown, and with it the desire for healthy ingredients that are easy to use. A prime example of this in Indonesia is coconut cream, long a staple ingredient in the national cuisine. While Indonesian consumers traditionally make their own by cutting, grating and squeezing coconut, many have been turning to the far more convenient packaged variety – a trend accelerated by the pandemic.

To help consumers better understand the product, Tetra Pak and KARA, one of Indonesia's top coconut brands, worked to drive and strengthen conversations with consumers around using packaged coconut cream, particularly during the pandemic.

The result was a multi-channel campaign that included online talk and cooking shows, plus a home cooking challenge inviting consumers to share their champion recipes using KARA's packaged coconut cream. The campaign also engaged influencers such as food bloggers and chefs and included a video animation explaining how UHT coconut cream is prepared hygienically without using preservatives, which was shared via social media.

Attitudes to food safety vary across the world

FRANCE

6 IN 10
are worried about the food they buy being hygienic and safe

CHINA

9 IN 10
agree that food safety is a major concern for society

3 IN 4
are really concerned with how food and beverages are produced

USA

1 IN 10
believe that healthy eating is about food that is safe rather than about food that is nutritious

NIGERIA

8 IN 10
want to see manufacturers focusing on improving food safety

6 IN 10
would never consider eating or drinking a product after its best before date

AUSTRALIA

4 IN 10
would consider consuming a product after its best before date, if it smells OK

Transparency and trust are more important than ever

In the context of health and other concerns around food, consumers are looking for transparency as reassurance, with 58% saying they really care about how food and beverages are produced and want to know everything they can about the process. This suggests an opportunity for brands to provide more information about production methods and especially provenance – one of the strongest drivers of consumer purchasing decisions.

Case study

Doi Kham, Thailand

Provenance, trust and transparency are all key to Doi Kham's brand image. It has long been affectionately known by Thai consumers for its support of local farmers and communities by using only locally grown produce.

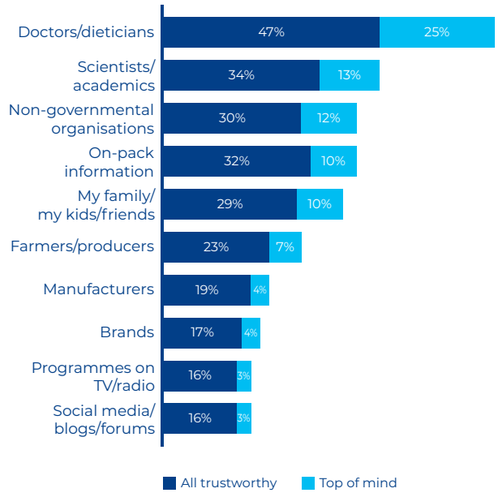
One recent launch, a drink containing lemongrass, ginger and pandanus, is a great example of this, showcasing herbs and spices from local farmers.

First launched in May 2020, the product was sold exclusively at 7-Eleven stores for three months to test the market before nationwide distribution. This authentic Thai herbal flavoured drink – targeting health-conscious consumers aged 30 and above – promotes the benefits of local herbs in reducing stress, refreshing, and supporting correct digestion.

Doi Kham has chosen Tetra Gemina® Aseptic 500 Square to preserve the unique flavour and taste of the beverage, while ensuring product quality. Moreover, the package is FSC™-certified, nicely contributing to environmentally sound product positioning and authenticity as a key pillar of the company's brand image.

Manufacturers are held responsible for food safety

But there is little trust in them as a provider of information on the subject

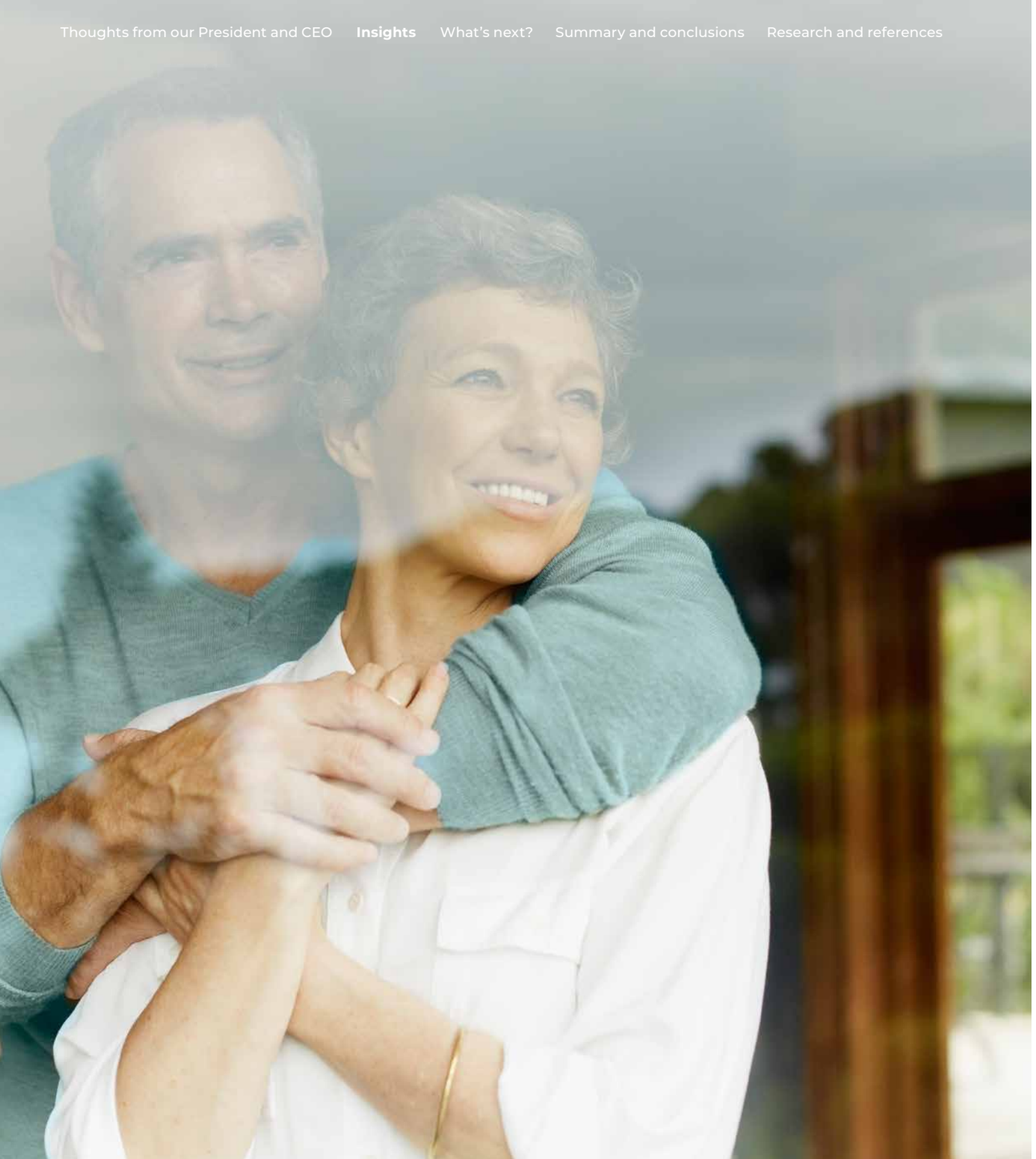


Trust is clearly an issue, particularly at a time when misinformation is so prevalent. Consumers overwhelmingly hold manufacturers responsible for food safety (at 55%, way ahead of government, which comes next at 45%). However, there is relatively little trust in them as a provider of information on the subject. They are ranked well below doctors, scientists and NGOs and are cited as trustworthy on food safety by less than a quarter (23%) of respondents. Interestingly, on-pack information rates significantly higher – rated fourth (at 42%), ahead of family and friends – perhaps because it is associated with key information such as ingredients and expiry dates, which are widely relied on, as we mentioned.

This suggests that on-pack is a good medium for brands to get their transparency message across.

One way that food and beverage manufacturers are adapting to boost trust and food safety simultaneously is by harnessing blockchain technology, which allows for completely interconnected, transparent supply chains "from farm to fork" (see page 45).

Our social media research shows that blockchain is generally described with hope and optimism, as it is seen to hold all parties accountable. However, there is some concern among consumers around whether or not it can deliver what is promised.

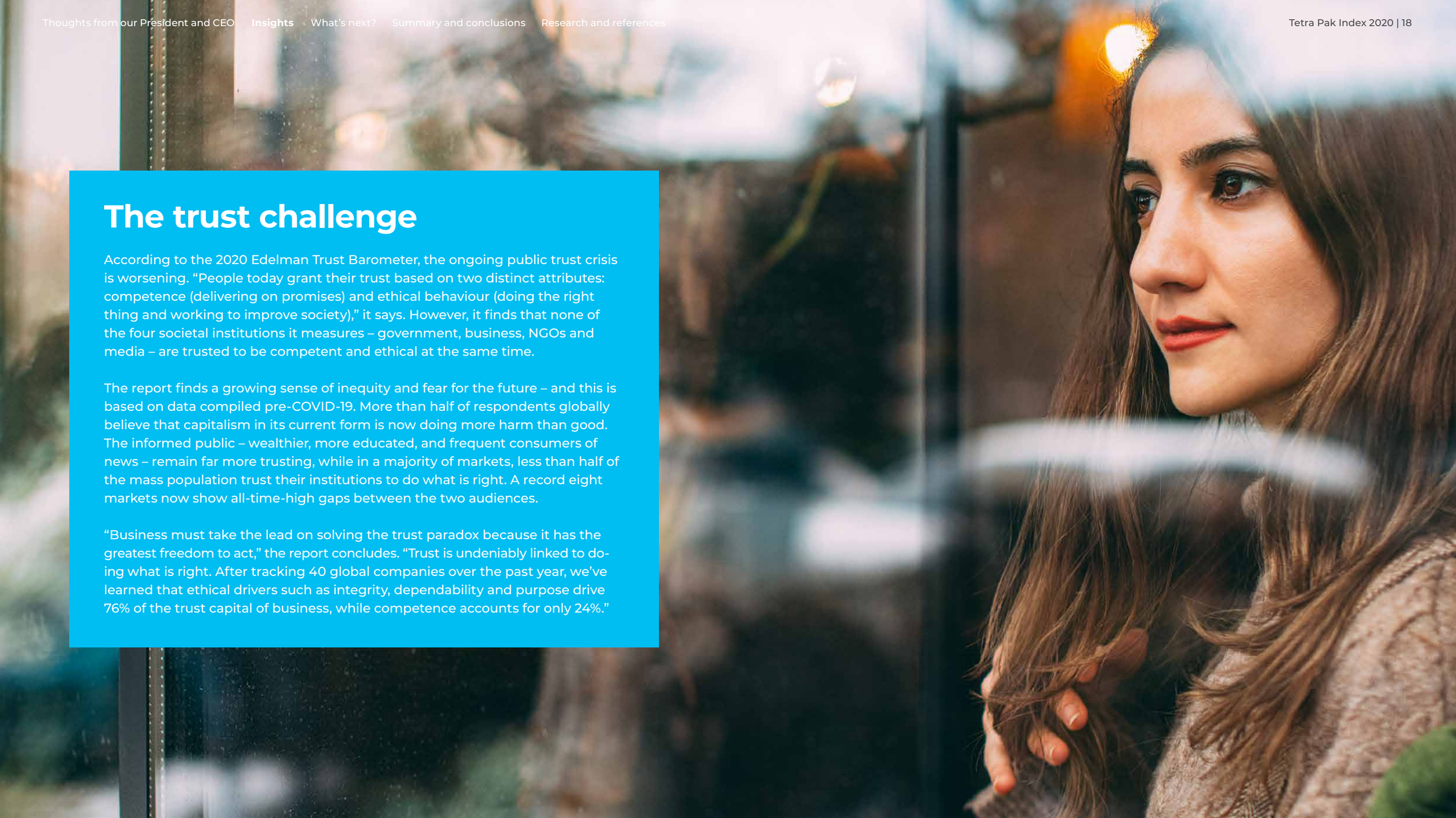


There are also opportunities for "connected packages" that allow consumers to scan an on-pack QR code or similar to access a wealth of online information about the product's provenance, environmental credentials, recycling points and so forth, or to access engaging or other value-added content. While consumers in some markets have been slow to adopt such scanning, this has changed rapidly in the COVID-19 "touch-free" era, with proliferating codes now widely used to access digital menus in restaurants, register for track and trace systems and so forth.

More generally, there is potential for brands with purpose to build on the value they proved and the relationships they forged during the pandemic.

"COVID-19 has changed our daily routines, forcing many people to re-evaluate what is important in their lives and shining the spotlight on fault lines in society. Progressive businesses will respond by boosting transparency, offering products and services that deliver tangible benefits and ensuring strategies align with science-based targets."

Trewin Restorick, Founder and CEO, Hubbub



The trust challenge

According to the 2020 Edelman Trust Barometer, the ongoing public trust crisis is worsening. "People today grant their trust based on two distinct attributes: competence (delivering on promises) and ethical behaviour (doing the right thing and working to improve society)," it says. However, it finds that none of the four societal institutions it measures – government, business, NGOs and media – are trusted to be competent and ethical at the same time.

The report finds a growing sense of inequity and fear for the future – and this is based on data compiled pre-COVID-19. More than half of respondents globally believe that capitalism in its current form is now doing more harm than good. The informed public – wealthier, more educated, and frequent consumers of news – remain far more trusting, while in a majority of markets, less than half of the mass population trust their institutions to do what is right. A record eight markets now show all-time-high gaps between the two audiences.

"Business must take the lead on solving the trust paradox because it has the greatest freedom to act," the report concludes. "Trust is undeniably linked to doing what is right. After tracking 40 global companies over the past year, we've learned that ethical drivers such as integrity, dependability and purpose drive 76% of the trust capital of business, while competence accounts for only 24%."

Food waste is rising up the agenda

Another key issue that has been highlighted by COVID-19 is food waste. This has long been a global challenge. According to a study conducted for the UN Food and Agriculture Organization (FAO),[2] one-third of food produced for human consumption goes to waste – recovering just half of that would be enough to feed the world.

Nevertheless, this is a topic that has historically struggled to gain much traction with consumers. That's partly because, spurred on by the media and government initiatives, consumers have prioritised addressing packaging waste, particularly plastic, as a means of addressing environmental concerns.

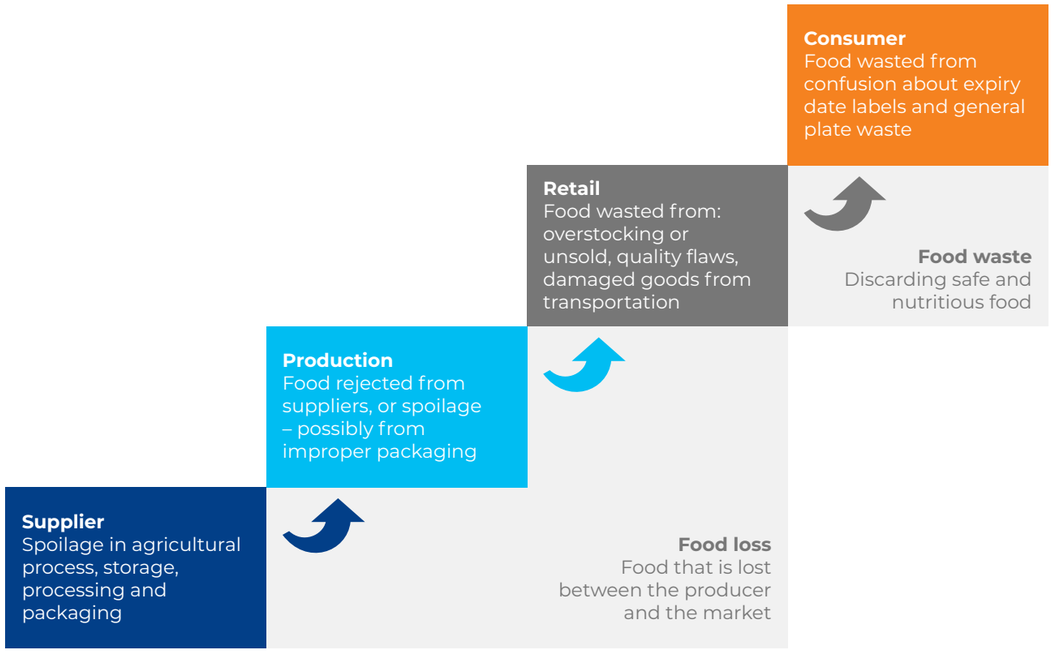
By contrast, food waste has been given less attention. Moreover, food waste is a complex issue, occurring across the value chain, making it hard for consumers to grasp.

However, awareness of the issue had already been growing, only to be accelerated by the pandemic, which highlighted waste and fragilities in the food supply chain. A report by the OECD[3] describes "unprecedented stresses", with "bottlenecks in farm labour, processing, transport and logistics, as well as momentous shifts in demand" – all of which have been highly visible.

In the early days of the pandemic, empty supermarket shelves were a common sight, albeit exacerbated by consumers' rush to stockpile food – particularly shocking for consumers in developed countries who had never known scarcity. Meanwhile, dairy farmers poured thousands of litres of milk down the drain and crops were left to rot in the fields.

Food loss and waste in industrialised countries are as high as in developing countries, but their distribution is different. In developing countries, more than 40% of food losses happen after harvest and during processing. In industrialised countries, more than 40% occurs at the retail and consumer level. In the EU, households generate more than half of the total food waste (47 million tonnes) with 70% of food waste arising in households, food service and retail.

Food waste is a complex issue, occurring from farm to fork



Our social media research shows that this has been a hot topic online. In the USA, many consumers have expressed despair about food banks running out of food despite high levels of waste occurring throughout the supply chain. As a result, they are looking to manufacturers to address the issue, particularly through the use of technology.

Consumers are also reflecting on their individual behaviour as well as wider habits of consumption, and there has been significant discussion around initiatives such as moves to ban restaurants from throwing away food, and local composting projects. The need to be more economical has also prompted conversation around how people can cut back on food waste in order to stretch their grocery budget further.

More than three-quarters of consumers (77%) now see food waste as a concern[4] – and limiting it is seen as one of the top three priorities for manufacturers.

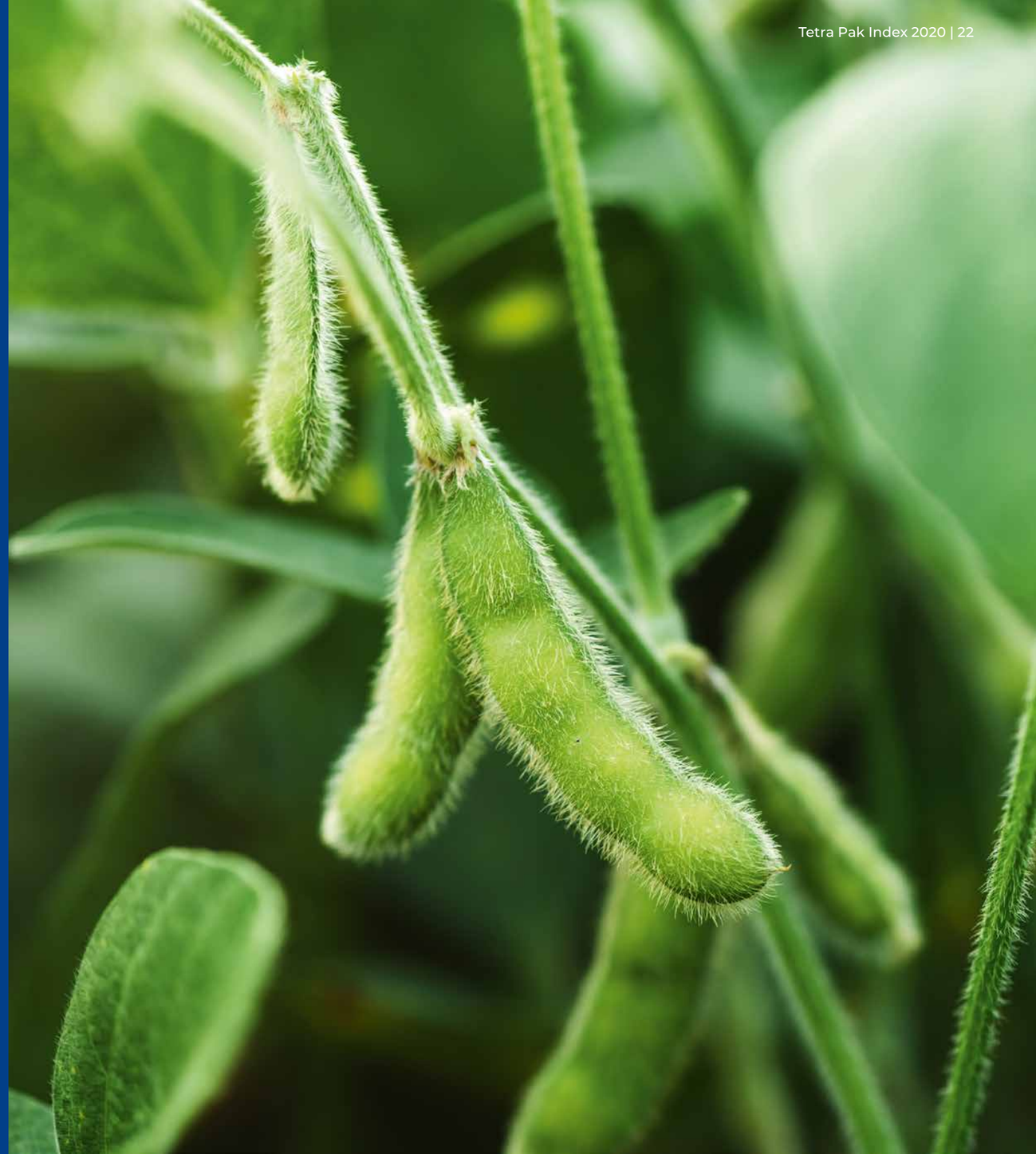
Case study

I-Mei, Taiwan

Taiwanese food and drink producer I-Mei is working to reduce food waste by turning okara – the insoluble parts that remain after puréed soybeans have been filtered in the production of soy milk and tofu – into a high value ingredient. By upcycling this production waste, I-Mei is addressing a common challenge in the plant-based beverage industry.

Fibre-rich okara forms part of the traditional cuisines of Japan, Korea and China, but had in the past been discarded, creating a significant disposal challenge for industry players including I-Mei. Tetra Pak worked with them to develop a whole bean processing solution that could capture this unwanted material and incorporate it into their soy milk drinks, creating a premium, high-fibre product with no added sugar, excellent flavour, and a desirable smooth mouthfeel.

Packaged in Tetra Top® Nallo 330 ml and Tetra Rex® 1L packages, wholesome soy milk is a new concept about which I-Mei is continuing to educate consumers through above the line and below the line campaigns.



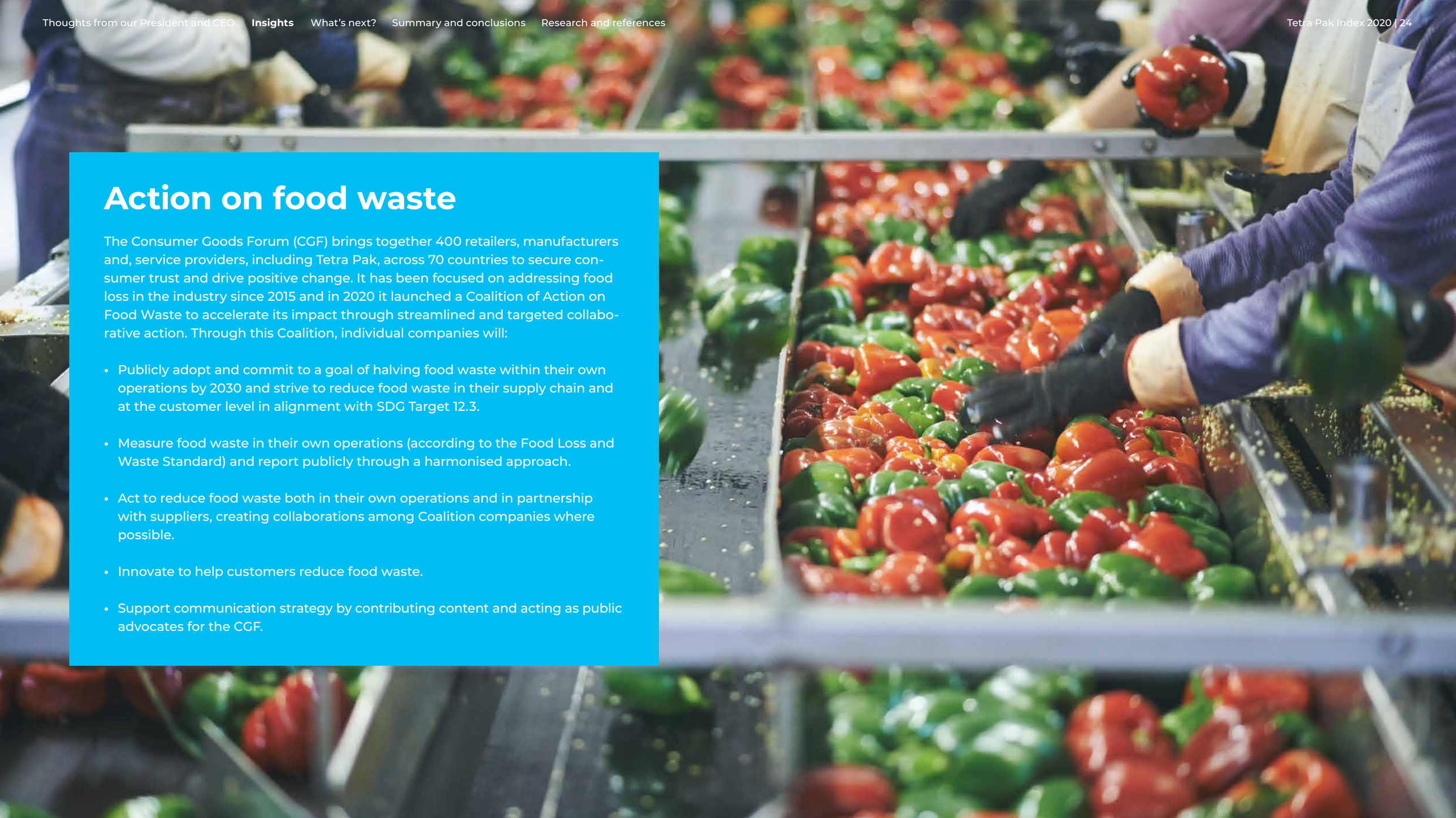
Many manufacturers (and retailers) are aware of the importance of this issue and have already set food waste reduction targets. For example, members of the Consumer Goods Forum have committed to halving food waste in their operations by 2025 (see following page).[5]

Meanwhile, the UN recently introduced an annual International Day of Awareness of Food Loss and Waste, observed for the first time on 29 September 2020. "[This] comes during the global COVID-19 pandemic that has brought about a global wake-up on the need to transform and rebalance the way our food is produced and consumed," said a UN statement.[6] Legislation is on its way, too. As part of the new Farm to Fork strategy, a key element of the European Green Deal, the EU will step up its action to prevent food loss and waste along the whole food value chain. This includes legally binding targets for food waste reduction by 2023.[7]

As with food safety, consumers will increasingly look for transparency throughout the supply chain to reassure them that the food waste challenge is being sufficiently addressed.

"COVID-19 has underlined the brittleness of food supply chains the world over. Ensuring that everyone can afford a healthy diet which can be produced sustainably, including with less food waste, and with a lower carbon footprint is essential for our continued resilience and for the planet's health. The pandemic is challenging industry and governments to support more consumers in becoming agents for change as they protect their families and their environment."

Rachel Kyte, Dean, The Fletcher School at Tufts University



Action on food waste

The Consumer Goods Forum (CGF) brings together 400 retailers, manufacturers and, service providers, including Tetra Pak, across 70 countries to secure consumer trust and drive positive change. It has been focused on addressing food loss in the industry since 2015 and in 2020 it launched a Coalition of Action on Food Waste to accelerate its impact through streamlined and targeted collaborative action. Through this Coalition, individual companies will:

- Publicly adopt and commit to a goal of halving food waste within their own operations by 2030 and strive to reduce food waste in their supply chain and at the customer level in alignment with SDG Target 12.3.
- Measure food waste in their own operations (according to the Food Loss and Waste Standard) and report publicly through a harmonised approach.
- Act to reduce food waste both in their own operations and in partnership with suppliers, creating collaborations among Coalition companies where possible.
- Innovate to help customers reduce food waste.
- Support communication strategy by contributing content and acting as public advocates for the CGF.

Rethinking testing

One way for manufacturers to reduce waste from the processing of food and beverages is to rethink how goods are tested. A substantial amount of packaged food is destroyed every year for food quality testing purposes. Might it be better to understand and change quality management systems, so they resemble those in the automotive or pharmaceutical sectors? Today, many of the checks around food safety come at the end of the manufacturing process rather than at the start and tend to be reactive rather than proactive. If processes are changed earlier in the supply chain, this might eradicate the need to destroy so many goods for food quality testing purposes. Read more: A Spotlight on Food Safety. and Industry 4.0.

Too Good To Go

Too Good To Go is a free smartphone app that connects customers to restaurants and stores that have unsold, surplus food. Launched in 2016, the app was created by a Danish tech startup and is now available in 15 countries. According to company figures, the app has more than 26 million users and has saved more than 47 million meals to date.[8] The company also offers an online "food waste knowledge hub" with "everything you need to know, all in one place." www.toogoodtogo.org

47%

of consumers believe preventing food waste is an area where they can make a positive difference.

Consumers want to help – but labelling is key

Preventing food waste is an area where consumers feel they can make a positive difference. When asked which global issues they believed they could have an impact on as individuals, 47% chose "preventing food waste" followed by 40% for "single use plastic" and 37% for "dealing with packaging waste" – also areas where consumers feel they can do something tangible, such as cutting down on the use of plastic and recycling.

However, there is a significant "say/do" gap when it comes to how consumers actually behave when it comes to food waste – and labelling is seen as a culprit here. In our survey, 39% of global consumers say they throw away food because the "best before" date has passed, even if it doesn't smell or look bad. 30% would "never" consider consuming a product after its expiry date, and a further 36% would only do so for certain products.

Attitudes to labels vary by geography. Consumers in developed countries generally show a more flexible attitude to expiry dates and are more likely to make a judgment based on smell or taste, perhaps reflecting their greater confidence in the safety of the products they buy. For example, Nigerian consumers are the most likely to depend on the expiry date to indicate whether food is safe to consume (63%). There are differences by age, too, with younger consumers more likely to rely on the expiry date.[9]

Worldwide, there is a lack of understanding around expiry dates and what they mean (such as "best before" versus "use by"). According to our social media research, in the USA there are ongoing conversations about the use of food labels contributing to unnecessary food waste, due to people not being clear about when food is still safe to consume.

There is action under way to address this. For example, as part of its action plan for the Circular Economy, the EU aims to reduce food waste by 30% and 50% in 2025 and 2030, respectively. Making expiry date labels less confusing is a key part of this, along with making food donations easier.[10]

Regulations to ensure these targets are met will soon follow. The CGF is also focusing on clarifying information on food labels to avoid consumer confusion, along with setting standards for measuring food waste.

Meanwhile, there are also innovation opportunities around intelligent expiry labels that can tell consumers whether or not a product is still safe to consume (for more on this and other innovation opportunities, see pages 44 and 45).

Concern for the environment remains very strong

While it's true that the pandemic has pushed the environment down the list of global concerns, it still remains ahead of everything else, even economic issues. We see a similar sentiment in our Consumer Environmental Trends Report 2020, with 78% of all consumers saying that they are concerned about the environment. The number is even greater for those with a higher level of education or income, the young, and those with young families.

Case study

do bem, Brazil

With its Bagaço project, Brazilian drinks company do bem is setting out to "transform waste into items that can make a difference in people's lives", according to Tiago Schmidt, Marketing Manager at do bem.

The project aims to ensure that 100% of the Tetra Pak® packages used for its range of healthy drinks – including teas, coconut water and juices for children – are recycled and re-used, either in the form of secondary packaging or products that can be used in a range of social initiatives to promote recycling.

To kickstart the project, do bem partnered with Brazilian company Muzzicycles – a pioneer in making bikes from recycled materials – to turn some 8,000 cartons into 20 branded bicycles. These have been donated to various NGOs in Rio de Janeiro. Future initiatives include creating spectacles, houses and roof-tiles for low-income people (in partnership with NGOs Ecolar and TETO) and furniture items. The goal is to save 1,000 tons of packaging waste per year.

Concern for the environment going forward remains particularly strong. In fact, even more consumers than last year believe that we are heading for environmental disaster unless we change our habits quickly (67% versus 66%).

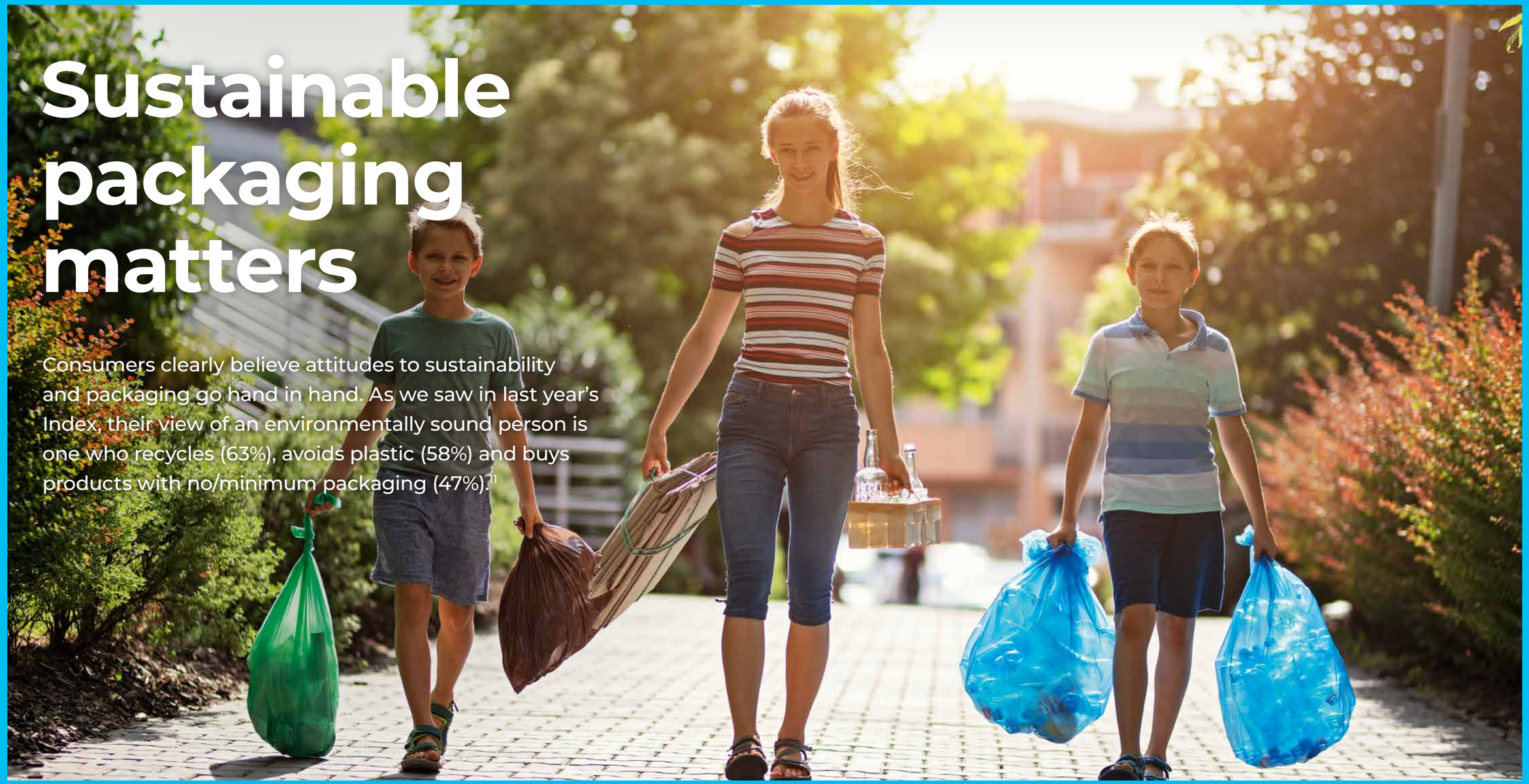
Moreover, almost two-thirds (63%) say that pandemic lockdowns have brought environmental improvements that they would like to see maintained. This suggests an appetite for change and opportunities for a "build back better" ethos and initiatives.

Examples are already under way, such as the European Green Recovery Alliance, an initiative launched by the European Parliament in April that aims to put action against climate change and biodiversity loss at the centre of Europe's post-COVID-19 economic policy. In September, more than 150 European business leaders and investors signed an open letter outlining their determination to work with the EU to tackle impacts of the COVID-19 pandemic while delivering a more climate-resilient and regenerative recovery. The letter also supported the ambition set out in the European Green Deal to reduce greenhouse gas emissions (GHG) by at least 55% by 2030.

All of that said, it's notable that there is a significant cohort in emerging countries that say they are sick of the fuss being made about the environment, amounting to about a third of consumers in India, Nigeria and Pakistan.

"Even in the midst of a global health crisis, consumer concern over environmental disasters continues to be high, confirming the understanding that these issues are blurringly intertwined. Data show that people understand the challenges in front of them and the urgency of taking action, and that the transition to low food waste societies and safe, sustainable food systems presents opportunities for both their health and for planetary health."

Johan Rockström, Director of the Potsdam Institute for Climate Impact Research



Sustainable packaging matters

Consumers clearly believe attitudes to sustainability and packaging go hand in hand. As we saw in last year's Index, their view of an environmentally sound person is one who recycles (63%), avoids plastic (58%) and buys products with no/minimum packaging (47%).[11]

Such activities are particularly attractive because consumers believe they make a difference: addressing single-use plastic and dealing with packaging waste, as well as preventing food waste, are all key global concerns that consumers believe they can influence.

Consumers see using sustainable packaging as a top priority for companies, coming (a very close) second only to improving food safety (52% versus 53%). They believe even more strongly that manufacturers' responsibility extends post-consumption.

Our social media research also points out the value of on-pack sustainability credentials, providing consumers a shortcut to decision making as an assurance that they are making a better choice. This remains true; however, in an environment where consumers have unprecedented access to information, it is also necessary for brands to back up sustainability claims and clarify what their certification entails to maintain transparency and consumers' trust.

"Sustainable food and packaging matters, especially in the midst of a pandemic and a global effort to build back better. The COVID-19 pandemic has highlighted the interplay of economy, society and environment, reinforcing the expectation for corporations to make steadfast pursuit of their sustainability goals. Tetra Pak's own endeavour to lead a sustainable food and packaging revolution has already made a strong and convincing case for progress."

Changhua Wu, CEO, Beijing Future Innovation Center

80%

of consumers say that companies should be obliged to help with the recycling and reuse of packaging that they produce.[12]

Case study

Lee Strand, Ireland

Irish dairy producer Lee Strand has launched its new fresh milk product in Tetra Rex® Plant-based packaging labelled carbon neutral.

The packages carry the Carbon Trust's "Carbon Neutral" label, which shows that the product's carbon footprint is reducing year-on-year and that any outstanding emissions are offset, in accordance with the internationally recognised PAS 2060 standard. In the case of Tetra Rex® Plant-based, remaining emissions are offset by investment in two Gold Standard projects: the Ceara Renewable Energy Biomass bundle project in Brazil; and the Cambodia Water Filters project.

The launch comes in response to high levels of consumer interest, explains Gearoid Linnane, CEO of Lee Strand. "There is strong demand in the market for environmentally friendly packages. This package is good for the environment and it offers customers a product they can hold in their hands and know that it is fully sourced from plant-based materials."

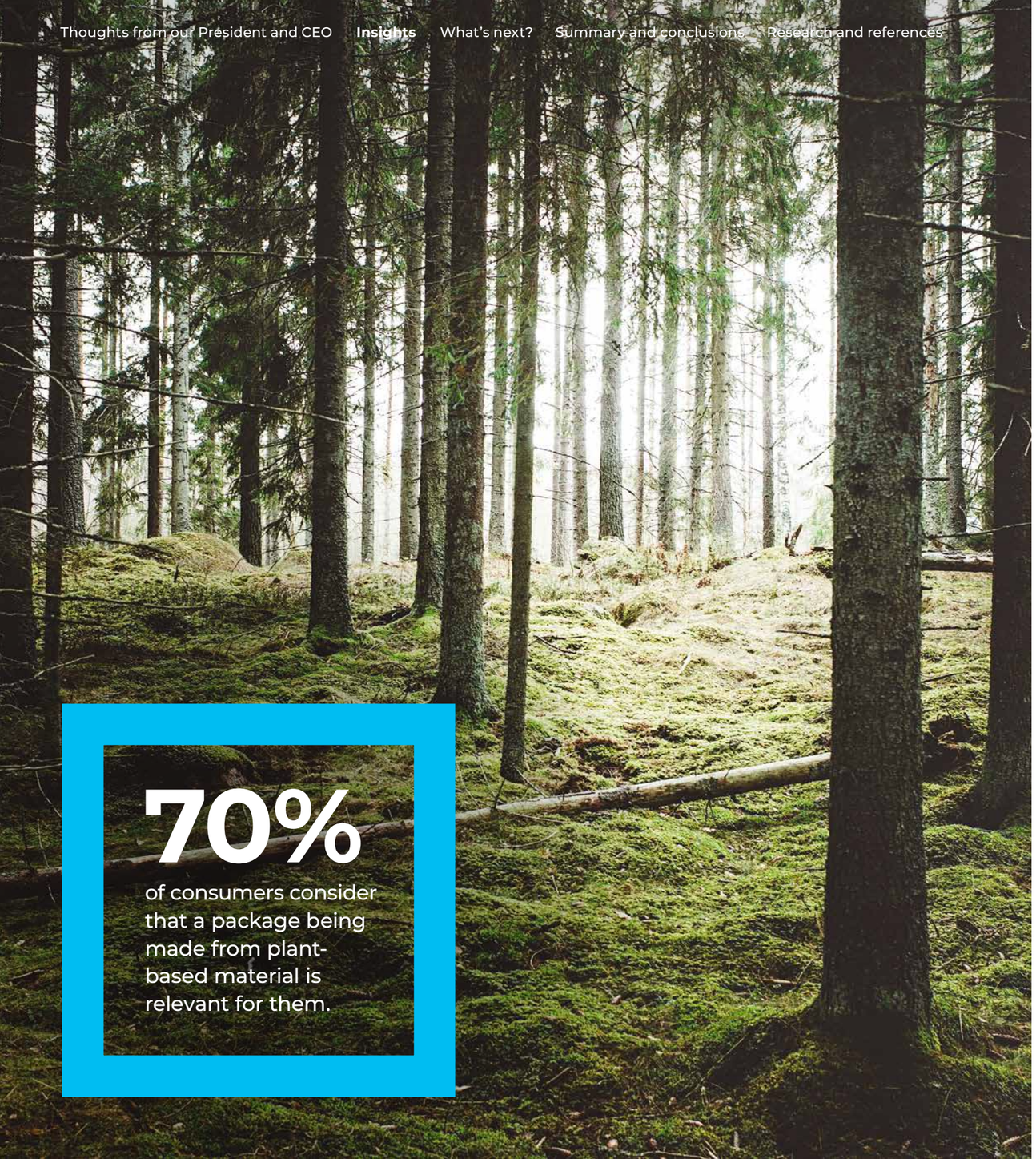
Case study

Agrilait, France

For an excellent example of a brand underpinning its sustainable offering with appropriate packaging, look no further than Agrilait, a French regional cooperative producing high-quality, GMO-free UHT milk, butter and cream.

For its new 100% organic, Breton milk, Agrilait chose the Tetra Brik® Edge Plant-based package – a first for the French market. The package is made from 82% plant-based materials, including paperboard sourced from FSC™-certified and protected forests, and a portion of plant-based plastic, made from Bonsucro-certified sugar cane. Including this plant-based plastic alone reduces the package's carbon footprint by 19%, compared with the fossil-based plastic alternative – a figure certified by the Carbon Trust. Moreover, the package is made from Tetra Pak® Craft packaging material, which not only gives the product an authentic look and feel, it also reduces the carton's weight by 5%, further reducing carbon impact.

The new product reinforces the Agrilait brand's historical values of respect for people, animals and the planet. The certified organic milk is collected directly from Breton farmers who champion the environment, preservation of biodiversity and natural resources, and the well-being of their animals. Marketed in the French regions of Brittany and Loire Atlantique, it is 100% local, improving the dynamism of the regional economy.



70%

of consumers consider that a package being made from plant-based material is relevant for them.

Plastic waste remains a key concern, particularly in the ocean: this was cited as a worrying issue by a striking 80% of consumers in our Consumer Environmental Trends Report 2020, ahead of global warming, depletion of natural resources and deforestation (all on 77%) and exceeded only by air pollution (on 82%).

Consumers have different attitudes to different materials. They perceive paper-based cartons and glass to be the most sustainable packaging options, with plastic bottles rated the least environmentally sound. Nature-based environmental claims rate well, with 70% considering that a package being made from plant-based material is relevant to them. Even more (73%) consider that a carton "helping protect the world's forests" is relevant.[13]

Consumers dislike over-packaging: 57% of consumers globally state they are likely to avoid products which have a lot of packaging, with China (71%), India (60%) and the UK (59%) over-indexing. However, there is a "say/do" gap again, and intentions are not leading to actions. Data shows that, in reality, consumers are no more willing to avoid products with a lot of packaging than they were six years ago (the figure is 55% for both 2014 and 2020).[14]

There is also a conflict between consumers' stated desire to choose sustainable materials and what they're willing to spend or able to afford. Tetra Pak research last year showed a trend for price to be declining as an issue for products with environmentally sound packaging specifically: down from 46% in 2017 to 42% in 2019.[15] The same research found that 43% of consumers think that a product in an environmentally sound package is worth more, conveying a sense of "premium-ness". Nevertheless, we found in last year's Index that cost was still cited by consumers as the biggest barrier to a more environmentally friendly lifestyle.

Cost is an even more pressing barrier today and age matters too; as consumers get older, the gap between affordability and sustainability increases. In the wake of the pandemic and its economic impact, many consumers around the world are facing immediate pressures on lower-order Maslow needs (health and disposable income), so the issue of sustainability risks has been deprioritised in practice, despite the strength of feeling behind it.

Recent data shows consumers shying away from the premium price of sustainable goods; hygiene and sustainability are not insignificant, but they look secondary as consumers seek out products that save them money.[16]

Moreover, COVID-19 and concerns about safety and hygiene have led to the re-emergence of some less environmentally friendly retail practices. Retailers closed fresh food counters and banned reusable bags, while restaurants and coffee shops returned to single-use plastic utensils and disposable cups. It has also slowed the momentum of retail packaging-free offerings.

This is in part driven by retailer actions, but also by consumers. Due to COVID-19, they have a renewed appreciation that packaging plays a critical role in keeping food safe, nutritious and available – and in reducing food waste. As mentioned previously, there is a likelihood that this awareness will grow going forward as the world strives to feed its growing population.

Meanwhile, spurred on by the pandemic, e-commerce, with its inevitable secondary packaging, has surged. While it's likely that environmentally friendly retail practices will return soon, given the consumer pull and legislative requirements, grocery e-commerce will continue to grow, impacting on packaging going forward (see page 40).

Convergence is increasing

In the last Index, we found that the traditionally distinct areas of health and the environment were converging. This year, we find further blurring of "people" and "planet" boundaries, with food safety, health, the environment and community becoming intertwined, often in contradictory ways.

This is particularly evident in the issue of food waste. As mentioned previously, this has traditionally been seen as a "people" issue, tied to poverty, malnutrition and starvation, and this remains true. Our social media study shows that in the USA, the COVID-19 pandemic and the subsequent increased demand on food banks has brought the issue close to home, driving conversation around food security and improving supply chain efficiencies to reduce food waste, along with support for the local community.

Online conversations in India show a strong link between reducing food waste and preventing hunger, with a focus on the responsibilities of government, business and individuals to work together to that end. "World Food Safety Day" is mentioned frequently in the context of reducing food waste, as well as the importance of access to food for ensuring public health, demonstrating the interconnectedness of these topics.

But there is a growing awareness that food waste is an environmental challenge, too. In fact, food waste accounts for around 8% of total global GHG emissions. To put it another way, if food waste were a country, it would be the world's third largest emitter of emissions.[17]

"COVID-19 has turned people's lives and the global economy upside down. It has forced a rethink about our priorities as individuals and nations. What has come out on top is a recognition of the importance of human health and environmental health, and the interdependence of the two."

Malini Mehra FRSA, Chief Executive, GLOBE International Secretariat

Food waste features strongly in our Consumer Environmental Trends Report 2020, with 77% of consumers saying that it is a concern for them, putting it level with global warming.

More than half (52%) see reducing food waste as important to preserving environmental resources for the next generation, while 43% see it as doing something helpful for the community. These are classic environmental attitudes and indeed are key to purchasing decisions; they were cited as the top two drivers for purchasing environmentally sound products last year.[18]

Food waste is a once abstract issue that is becoming concrete and personal, as people and planet increasingly go hand in hand. While the pandemic has focused consumers on immediate concerns such as food safety, hygiene and value, it has also increased awareness of problematic issues around the way the global economy works, and its impact on the environment and communities, both global and local. This is likely to generate a greater appetite for change and ever more interest in sustainable business practices and products going forward.

Case study

Matriark Foods, USA

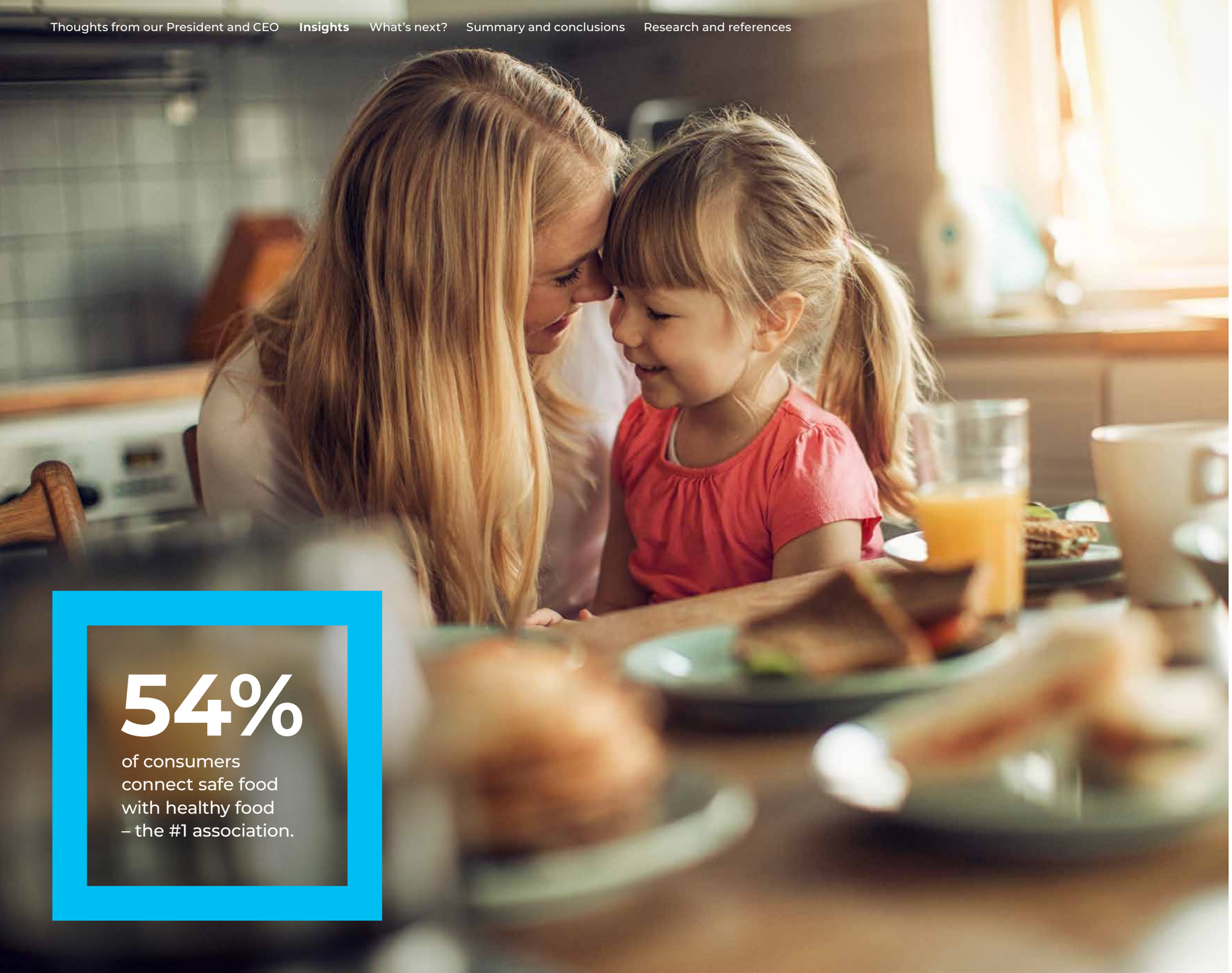
Matriark Foods upcycles vegetable farm surplus and fresh-cut remnants that would otherwise be wasted and sent to landfill – therefore significantly contributing to global warming – into healthy, delicious, low sodium vegetable products for schools, hospitals, food banks and other food service channels.

Matriark Foods worked with River Run Foods, a co-packer that recently began filling Tetra Pak cartons, to develop the recipe. The Tetra Pak Product Development Centre in Lund (Sweden) also supported these efforts.

"The key was to find the appropriate concentration of condensed broth that could easily be prepared by consumer and commercial chefs into a flavourful multi-use broth," says Anna Hammond, founder and CEO of Matriark Foods. "The result is that a single carton creates 2.5 gallons of delicious broth, diverting approximately one pound of waste from landfills and reducing greenhouse gases by 2.9 pounds."

Tetra Pak also provided support on Matriark Foods' package design to clearly communicate the brand's mission, including Tetra Pak and FSC™ logos to support its sustainability position. The new product was launched in March 2020, and the company anticipates that it will distribute more than 200,000 cartons by the end of 2020.

Hammond concludes: "Working with Tetra Pak, a global leader in shelf-stable packaging, has allowed us to dramatically advance our mission to reduce food waste and feed people at a scale that can significantly alter the terrifying trajectory of climate change."



54%

of consumers connect safe food with healthy food – the #1 association.

Connecting safe, healthy and environmentally sound food

Consumers perceive strong common connections between food that is safe, healthy and environmentally friendly, demonstrating how these issues are intertwined. All are perceived to be "natural", "fresh" and with "no preservatives" (all in that order). Again, safety and health go hand in hand, with 54% connecting safe food with healthy food – the #1 association.

This suggests a strong connection between food safety and general long-term health, rather than just protection against immediate harm.

What's next?

Factors influencing the future of packaging

So where do we go from here? In the face of a reshaped consumer and economic landscape, how can food and beverage manufacturers adapt and thrive – and what will the future of packaging look like? To explore these questions, here is a roundup of insights using a PESTLE[19] analysis, based on our Index research and interviews with industry experts at Tetra Pak, Ipsos and elsewhere.

Policy

- We can expect to see more headlines in the news relating to legislation around new packaging types, such as biodegradable packaging, blockchain and intelligent expiry date labels.

- Anti-plastic sentiment is likely to continue, spurring further legislation worldwide. Meanwhile, a post-COVID 19 "build back better" ethos and initiatives are already under way, such as the EU's Green Recovery Alliance, which may also impact packaging.

- Pressure is building to address food waste, with regulations coming soon and companies expected to introduce initiatives to improve awareness and help consumers "do the right thing".

Economy

Global pandemic

- Consumers will be price-sensitive in the pandemic-triggered recession, making value even more paramount.

- COVID-19 has created bottlenecks in supply chains, caused short-staffing at recycling plants and led to some consumer wariness around certain types of packaging.

- Recycling plants may seek to reduce human labour and implement robotics to help improve sorting of materials. Collaborations between the packaging industry, food and beverage manufacturers, and recycling plants are anticipated to become even more imperative going forward.

- The pandemic has provided an opportunity for manufacturers and consumers to pause and rethink processes, which may accelerate the already growing appetite for more circular economy-driven systems and greater use of renewable materials.

E-commerce growth

- The demand for online shopping has been increasing for a few years and COVID-19 has significantly accelerated this trend. One report predicts online food and beverage sales will reach $143 billion by 2025, representing 30% of all "omnichannel" food and beverage spending.[20]

- Packaging robustness and protection become much more important when products go through the e-tailing channel. Nevertheless, to become more sustainable, packaging for online shopping is likely to become more minimal, have reduced package sizes, and use redesigned shipping cases. This is already apparent at Amazon, which is charging vendors that have oversized or unnecessary packaging.

- At the same time, companies like Amazon and China's Alibaba are making more demands on food and beverage brands to help ensure that products are not damaged, contaminated or recalled, all of which puts a greater strain on primary packaging.

Society

- As we saw in Tetra Pak Index 2019, consumer concerns around health and the environment are converging. There is a growing consumer sentiment that the way we are processing and manipulating the food we consume is making us sick. Health issues such as children's allergies, Attention Deficit Disorders (ADD) and obesity are seen as acute drivers of change towards environmentally sound products.

- The pandemic has led to notable lifestyle changes. Consumers may continue to buy more quantities online and buy in bulk as staying home remains a preference – or a requirement.

- There is a growing demand for transparency around production methods and provenance. Buying local is key for China, France, India and the USA as consumers over-index on: "I prefer to buy products from my own country rather than products from abroad."

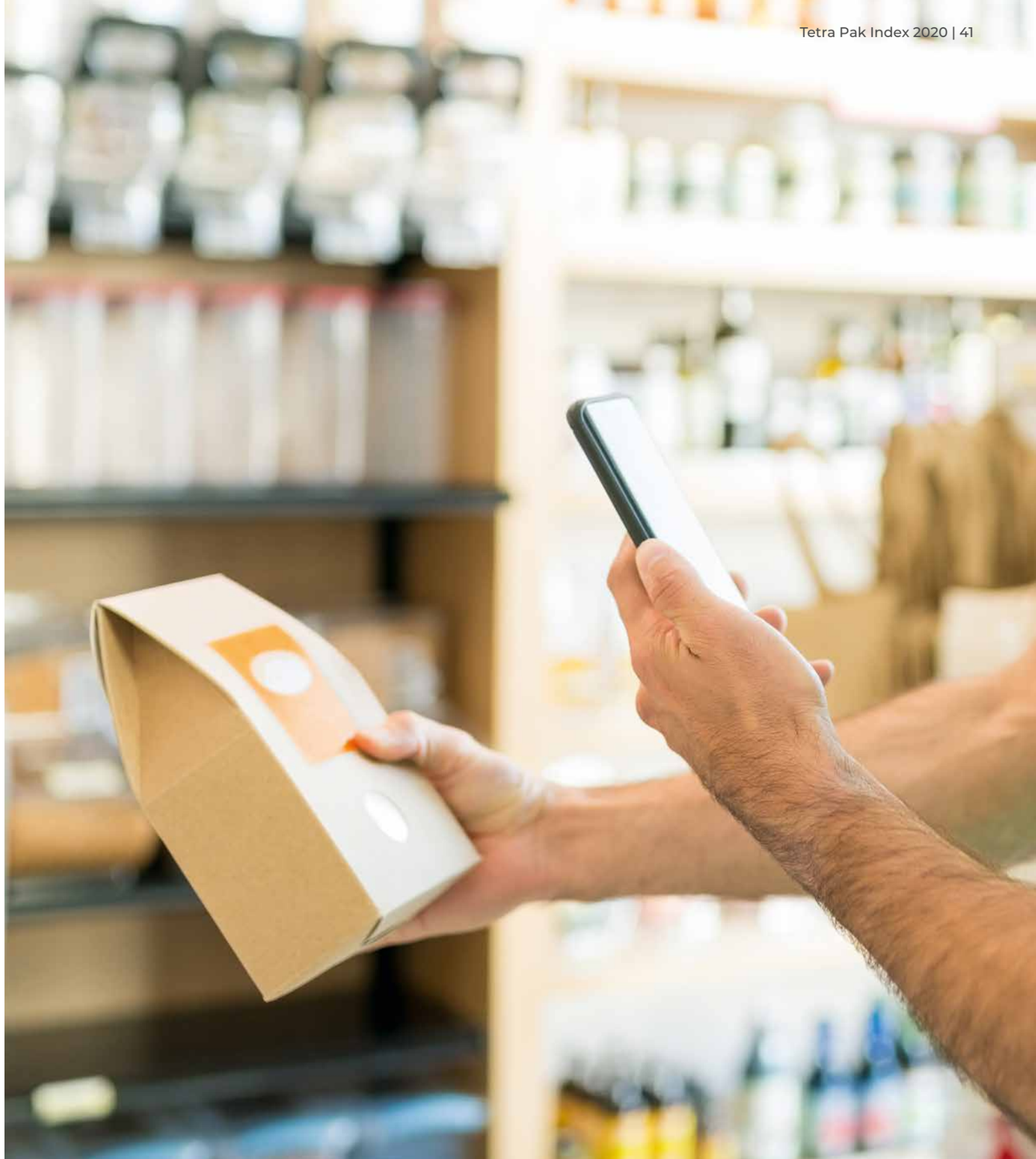
- Food waste and its impact on communities and the environment is rising up the agenda and consumers will demand greater transparency to ensure this issue is being addressed, too.

Technology

- Government initiatives and consumer demand for plastic alternatives are encouraging manufacturers to innovate with recyclable and renewable materials.

- Due to the pandemic, consumers are currently particularly focused on secure and safe packaging, notably with closures. Nevertheless, experts predict more product than packaging innovation, such as growth in preventive health and immunity-boosting products, as food safety in packaging is already strong. Instead, food and beverage brands are likely to focus on their communication strategy, reassuring consumers about pack/product hygiene and food safety.

- Blockchain is widely seen as an excellent means of ensuring transparency across the supply chain. According to a study from Gartner, it "will have the potential to transform industries, and eventually the economy, as complementary technologies such as AI and the IoT begin to integrate alongside blockchain. Already appearing in experimental and small-scope projects, blockchain will be fully scalable by 2023."[21]



Environment

- Manufacturers will continue to innovate and find ways to reduce carbon footprint, including the use of renewable materials and renewable energy.

- They will also help educate consumers to make the best possible choices. Concepts such as carbon footprint, the circular economy and renewability are difficult for consumers to grasp, as they are not as tangible as actions such as recycling. However, interest rises when they are explained in straightforward language.[22]

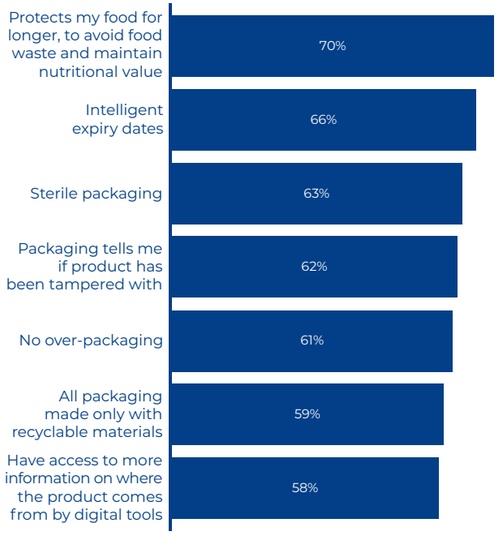
- Carbon footprint is expected to become the new measurement of sustainability as many experts agree that, to coin a phrase, the "battle is plastics, but the war is carbon footprint." Some expect to see a carbon tax, while others expect more packaging to state the product's carbon footprint on-pack.

The world's most sustainable food package

The COVID-19 pandemic, the rising dilemma around food safety and food waste, and increasing awareness of how supply chains work (and why they sometimes don't) all open the door to a wider debate about sustainability and the role and design of packaging going forward. While circularity is key to sustainability, it is not enough to focus only on "reduce, recycle and reuse": it's also important to consider the impact of the materials that are used in the first place. Emissions from the production of materials used for packaging alone are larger than global aviation or shipping, especially plastics, which account for 60% of this total.[23] Consequently, the ultimate sustainable package should be circular and minimise its impact on nature and the environment. In addition to being fully recyclable and supportive of an effective recycling system, it should be made of fully renewable or recycled materials that contribute towards carbon-neutral production and distribution. At the same time, it should be convenient and safe, enabling a resilient food system that can support the world's growing population. Tetra Pak is already on the journey to creating this package. To find out more, visit: www.tetrapak.com/go-nature-go-carton/our_journey

What consumers want

Most relevant innovations in food and beverage production and packaging

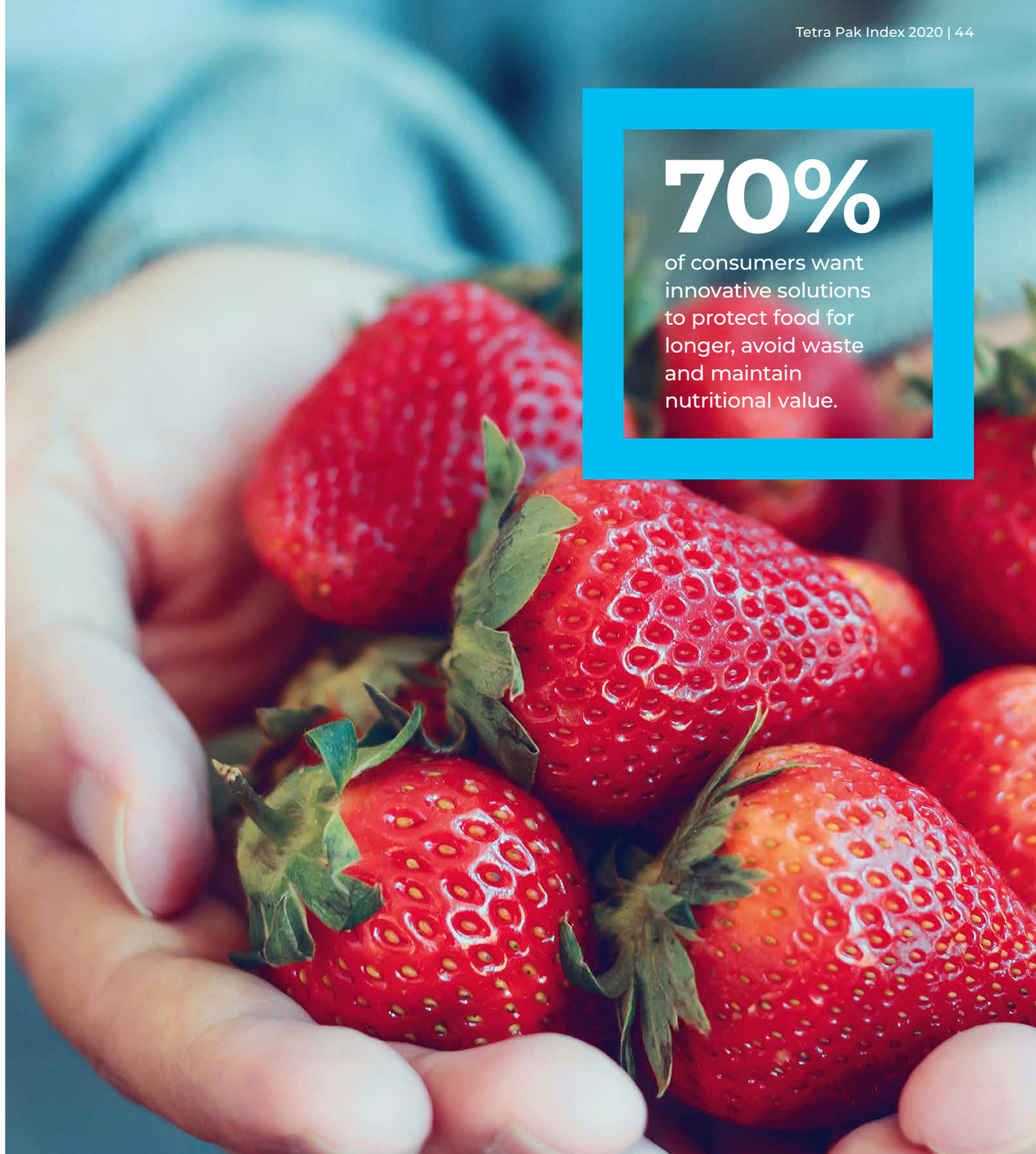


When asked to select from a list of future packaging innovations, the number one choice was protecting food for longer to avoid waste and maintain nutritional value, selected by 70% of consumers. Notably, this is the one option in the list which is relevant to both health/food safety and sustainability, demonstrating the potency of options that apply to both areas.

This finding echoes separate Ipsos research, in which 58% of consumers said they would be willing to pay a premium for packaging that protects food for longer, compared with 31% for environmentally friendly packaging.[24]

The next most popular choice in our list also relates to the longevity of food storage, with 66% opting for intelligent expiry dates that signal whether or not a product is still safe to consume. Again, it's notable that this is an option that's relevant to two key areas: food waste and food safety.

Interest in better, smarter labels also comes across in our social media study, with some seeing current limitations as a "missed opportunity" to ensure better food safety, reduce food waste and also satisfy demand for greater transparency by communicating information about the origins of food.



70%

of consumers want innovative solutions to protect food for longer, avoid waste and maintain nutritional value.

Notably, while the top sustainability-specific choices come mid-way down the list of options, they still rate very highly (at 61% for no over-packaging and 59% for recyclability).

Providing greater access to information on provenance is also popular. In our social media analysis, we found conversations arising from the combination of a need for greater food traceability following food contamination scandals, with the rise of blockchain as an enabler.

The promise of blockchain

Blockchain technology is essentially a way of storing and sharing information in real time across a network of users in an open virtual space. For the food and beverage industry, benefits include maximising shelf life, optimising partner networks and increasing recall response efficiency, boosting food safety and helping reduce waste. An early pilot by Walmart in the US allowed it to reduce the time it took to trace the origin of mangoes in one store from around seven days using its old system to just 2.2 seconds.[25]

Such systems also help consumers check on the sustainability performance and production methods of products. For example, this year Nestlé started using blockchain technology to provide a wealth of information for its luxury coffee brand Zoégas.[26] Consumers can now access information about farmers, time of harvest and transaction certificates from the Rainforest Alliance for specific shipments, as well as the roasting period, simply by scanning a QR code with their smartphone.[27]

Summary and conclusions

COVID-19 has transformed the consumer landscape
COVID-19 has displaced the environment as the number one consumer concern, while other health-related issues have fallen sharply. Concerns around food safety and food security have risen significantly as consumers try to balance these with their worries about the environment, highlighting the dilemma that they face between these two subjects.

The changing interplay between food safety and the environment
Food safety is rated an equal concern for society as COVID-19. Health is now connected to heightened issues of food safety and hygiene; two-thirds say that being healthy is being safe. Improving food safety is cited as the number one priority for manufacturers. And this expectation will only increase as we need to feed a growing population, with food packaging playing a critical role.

Transparency and trust are more important than ever
Manufacturers are seen as responsible for food safety – but trust in them is low. Transparency is key, with almost three in five consumers saying they want to know all they can about product production. Provenance is among the top purchase drivers.

Food waste is rising up the agenda
The impact of COVID-19 on supply chains has accelerated awareness of food waste as a pressing issue. More than three-quarters now see food waste as a concern – and limiting it is seen as one of the top three priorities for manufacturers.

Consumers want to help – but labelling is key

Consumers see preventing food waste as the number one environmental issue that they can influence. But confusing labelling is a barrier. While regulators work to simplify/clarify expiry dates, there is an opportunity for better communication, including on-pack information or via connected packages.

Concern for the environment remains very strong

The environment still rates ahead of every concern except COVID-19, with two-thirds of consumers believing that we're heading for disaster unless we change our habits quickly. Two-thirds say pandemic lockdowns brought environmental improvements they would like to see maintained, suggesting an appetite for change and "build back better" initiatives.

Sustainable packaging matters

Consumers see sustainable packaging as a top priority for manufacturers, and four in five say companies should be obliged to help with the recycling/reuse of their packaging. Carton is considered among the most environmentally friendly options, while plastic waste remains a key concern, fostering industry interest in renewable materials.

Convergence is increasing

The convergence of health and the environment we observed in last year's Index has grown to encompass other concerns, as "people" and "planet" issues increasingly overlap. Health is now connected to issues around food safety and hygiene. On the other side of the equation, continued strong concern for the environment is connected with other sustainability issues, notably food waste, and a greater sense of community.

What consumers want

The number one preferred innovation is to protect food for longer to avoid waste and maintain nutritional value. The next in line is intelligent expiry dates – another factor addressing food waste. The top five choices all relate to food safety. The top two environmentally friendly choices are minimal packaging and recyclability, which also rate highly.

Key takeaway

The COVID-19 pandemic has disrupted the status quo, creating a new paradoxical landscape of consumer concerns and needs. Food safety, security and waste have become much more pressing issues, while concern for the environment remains strikingly strong. Traditional boundaries are becoming increasingly blurred, as issues around food, people and planet become more entwined. There has never been a better time to start a wider debate about sustainability and the role of packaging going forward, as we strive to provide safe access to food for the world's growing population while protecting the planet itself. Companies can demonstrate purpose by rising to this dual challenge and solving the dilemma that COVID-19 has created between food safety and environmental concerns.

Research and references

Research methodology

The research for this Index is based on the following:

- Global consumer research: A bespoke survey in partnership with Ipsos, comprising 1,000 online interviews during June–July 2020 in each of the following markets: Australia, Brazil, China, France, India, Nigeria, Pakistan, Russia and the USA. This is the default research throughout this report; if no attribution is given to a reference, either directly in the text or in an endnote, this is the research being referred to.

- Social media research: A bespoke study in partnership with Ipsos, analysing a total of approximately 75,000 online consumer conversations in the USA and India over the 24 months leading up to June 2020. We used Synthesio to capture data across social sites (Twitter, Instagram, blogs, forums, etc.), including both text and image-based data sources. In total, we reviewed 384,582 posts in the USA and 37,551 posts in India.

- Desk research: A thorough review of existing data and reports.

- Consumer Environmental Trends Report 2020: In addition to the above research for this Index, we conducted our latest environmental survey in July 2020, comprising a total of 4,800 consumer interviews based on an online questionnaire in 16 markets: Brazil, Chile, China, France, Germany, Italy, Japan, Pakistan, Saudi Arabia, South Africa, Sweden, Thailand, Turkey, the UAE, the UK and the USA.

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